

Form PTO-1390		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY'S DOCKET NUMBER P22036
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371			U.S. APPLICATION NO. (If known, see 37 CFR 1.5) <b>10/069614</b>
INTERNATIONAL APPLICATION NO. PCT/IB00/01205	INTERNATIONAL FILING DATE 30 August 2000	PRIORITY DATE CLAIMED 31 August 1999	
TITLE OF INVENTION DEVICE FOR FIXING IN A CONTAINER SUCH AS A METAL CAN A DEVICE AUTOMATICALLY EXTRACTING THE STRAW AND ITS ASSOCIATED DEVICE			
APPLICANT(S) FOR DO/EO/US Dany PRIETO			
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.			
<ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.</li> <li>2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.</li> <li>3. <input checked="" type="checkbox"/> This is an express request to promptly begin national examination procedures (35 U.S.C. 371(f)).</li> <li>4. <input checked="" type="checkbox"/> The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).</li> <li>5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <ol style="list-style-type: none"> <li>a. <input checked="" type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input checked="" type="checkbox"/> has been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US).</li> </ol> </li> <li>6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)).</li> <li>7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> <li>a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau).</li> <li>b. <input type="checkbox"/> have been communicated by the International Bureau.</li> <li>c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired.</li> <li>d. <input checked="" type="checkbox"/> have not been made and will not be made.</li> </ol> </li> <li>8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3))</li> <li>9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). "UNEXECUTED"</li> <li>10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (U.S.C. 371(c)(5)).</li> </ol>			
Items 11 to 16 below concern other document(s) or information included:			
11. Assignee: _____			
12. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98.			
13. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.			
14. <input type="checkbox"/> A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.			
15. <input type="checkbox"/> A substitute specification.			
16. <input type="checkbox"/> A change of power of attorney and/or address letter.			
17. <input checked="" type="checkbox"/> Figure of Drawing to be published <u>6</u>			
18. <input checked="" type="checkbox"/> Other items or information: International Application as published in French. International Application as filed in French. PCT/ISA/210 (in English and French). PCT/IB/332 (in French). PCT/IB/301 (in French). PCT/IB/304 (in French). PCT/IB/308 (in French). Cover Letter under 35 U.S.C. 371 AND 37 C.F.R. 1.495. Claim of Priority.			

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

10/069614

INTERNATIONAL APPLICATION NO.

PCT/IB00/01205

ATTORNEY'S DOCKET NUMBER

P22036

19. ~~The~~ The following fees are submitted:

Basic National Fee (37 CFR 1.492(a)(1)-(5)):

Search report has been prepared by the EPO or JPO. . . . . \$ 890.00  
 International preliminary examination fee paid to USPTO (37 CFR 1.482). . . . . \$ 710.00  
 No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO(37 CFR 1.445(a)(2)). . . . . \$ 740.00  
 Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2) paid to USPTO. . . . . \$1,040.00  
 International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4). . . . . \$ 100.00

ENTER APPROPRIATE BASIC FEE AMOUNT =

CALCULATIONS PTO USE ONLY

\$ 890.00

Surcharge of \$130.00 for furnishing the oath or declaration later than \_\_\_ 20 \_\_\_ 30 months from the earliest claimed priority date (37 CFR 1.492(e)).

\$ 0.00

Claims	Number Filed	Number Extra	RATE
Total Claims	- 20 =		X \$18.00
Independent Claims	- 3 =		X \$84.00
Multiple dependent claim(s) (if applicable)			+ \$280.00

\$ 0.00

\$ 0.00

\$ 0.00

\$ 0.00

TOTAL OF ABOVE CALCULATIONS =

\$ 890.00

☒ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.

\$ 445.00

SUBTOTAL =

445.00

Processing fee of \$130.00 for furnishing the English translation later than \_\_\_ 20 \_\_\_ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).

+

0.00

Extension of Time fee in the amount of \$

0.00

TOTAL NATIONAL FEE =

445.00

Fee for recording the enclosed assignment (37 CFR 1.21(h). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property

+

0.00

TOTAL FEES ENCLOSED =

445.00

Amount to be refunded \$

Charged \$

a. ☒ A check in the amount of \$445.00 to cover the above fees is enclosed.

b. \_\_\_ Please charge my Deposit Account No. \_\_\_ in the amount of \$ \_\_\_ to cover the above fees.

c. ☒ The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 19-0089.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO CUSTOMER NO. 7055 AT THE PRESENT ADDRESS OF:

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NAME

REGISTRATION NUMBER

28,394

P22036.A01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Dany PRIETO

Group Art Unit: Unknown

Appl. No. : Not Yet Assigned  
(U.S. National Phase of PCT/IB00/01205)

Examiner: Unknown

Filed : February 27, 2002  
(I.A. Filed August 30, 2000)

For : DEVICE FOR FIXING IN A CONTAINER SUCH AS A METAL CAN  
A DEVICE AUTOMATICALLY EXTRACTING THE STRAW,  
AND ITS ASSOCIATED DEVICE

**PRELIMINARY AMENDMENT**

Commissioner of Patents and Trademarks  
Washington, DC 20231

Prior to examination of the application and calculation of filing fees, please enter  
the following amendment.

IN THE SPECIFICATION

Please substitute for the Abstract of the Disclosure, the Abstract appended on a  
separate page as Appendix 1 at the end of this Amendment.

IN THE CLAIMS

*Please amend claims 4-10 as follows (a marked-up version of the amended claims is  
submitted in Appendix 2 attached at the end of this Amendment):*

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## CLAIMS

4. (Amended) Method according to claim 1, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on a projection (11) affixed to the arm.

5. (Amended) Method according to claim 1, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on the straw (2) retained by the arm.

6. (Amended) Device for extracting a straw adapted to implement the method according to claim 1, characterized in that it comprises a straw-supporting member (7) constituted by an elastically deformable retention arm (8), one of the ends of which is connected to a peripheral ring or annular ring (9), whereas the free end of the arm (8) includes means (10) for retaining the straw.

7. (Amended) Device for extracting a straw adapted to implement the method according to claim 6, characterized in that the means (10) for retaining the straw are constituted by a retaining tube portion (10).

8. (Amended) Device for extracting a straw adapted to implement the method according to claim 6, characterized in that it is advantageously obtained in a single piece made of injected plastic material, whereas the annular ring (9) includes a succession of deformable lips (15) that are peripherally sandwiched during the crimping of the can between the cover (14), and more

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particularly its crimping groove (31) and the upper peripheral rim of the opening of the container.

9. (Amended) Device for extracting a straw adapted to implement the method according to claim 6, characterized in that the retention arm (8) includes an actuation arm (18) adapted to be actuated and displaced by the cap (5) during the opening of the can.

10. (Amended) Device for extracting a straw adapted to implement the method according to claim 6, characterized in that the elastic linkage of the retention arm (8) with the peripheral ring (9) is obtained by the succession of two elastically deformable zones: a first deformation zone (16) enabling the retention arm (8) to displace in horizontal pivoting about a vertical pivoting axis (XX'), and a second deformation zone (17), distinct from the first deformation zone (15), enabling the arm (8) to displace in vertical pivoting about a horizontal pivoting axis (YY').

### **Remarks**

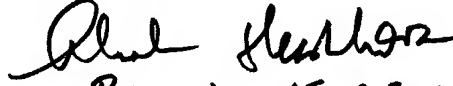
Entry of this amendment is respectfully requested prior to examination of the application and calculation of filing fees. This Amendment is being filed in order to submit an Abstract of the Disclosure on a separate page and to remove multiple claim dependencies.

The Commissioner is hereby authorized to refund excess fees and charge any fees necessary for the consideration of this preliminary amendment to Deposit Account No. 19-0089.

P22036.A01

Should the Examiner have any further comments or questions, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
Dany PRIETO

  
Reg. No. 45,294

-----  
Neil F. Greenblum  
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September 9, 2002  
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Enclosures: Appendix 1  
Appendix 2

P22036.A01

**APPENDIX 1****--ABSTRACT OF THE DISCLOSURE**

Method of positioning, in a can including a container (3) closed by a cover (14), a device for automatically extracting a straw (2), of the type including a straw-supporting member constituted by an elastically deformable retention arm (8) adapted to be tensioned by elastic deformation, the arm including a retention tube (10) for the straw, characterized in that it comprises tensioning of the arm (8) by the direct or indirect effect of the cover during the coupling of the cover (14) to the device.--

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## APPENDIX 2

### CLAIMS

4. (Amended) Method according to [any of the preceding claims] claim 1, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on a projection (11) affixed to the arm.

5. (Amended) Method according to [one of claims 1-3] claim 1, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on the straw (2) retained by the arm.

6. (Amended) Device for extracting a straw adapted to implement the method according to [any of the preceding claims] claim 1, characterized in that it comprises a straw-supporting member (7) constituted by an elastically deformable retention arm (8), one of the ends of which is connected to a peripheral ring or annular ring (9), whereas the free end of the arm (8) includes means (10) for retaining the straw.

7. (Amended) Device for extracting a straw adapted to implement the method according to [the previous] claim 6, characterized in that the means (10) for retaining the straw are constituted by a retaining tube portion (10).

8. (Amended) Device for extracting a straw adapted to implement the method according to [one of claims 6 or 7] claim 6, characterized in that it is advantageously obtained in a single piece made of injected plastic material, whereas the annular ring (9) includes a succession of deformable lips (15) that are peripherally sandwiched during the crimping of the can between the cover (14), and more particularly its crimping groove (31) and the upper peripheral rim of the opening of the container.

9. (Amended) Device for extracting a straw adapted to implement the method according to [one of claims 6-8] claim 6, characterized in that the retention arm (8) includes an actuation arm (18) adapted to be actuated and displaced by the cap (5) during the opening of the can.

10. (Amended) Device for extracting a straw adapted to implement the method according to [any of claims 6-9] claim 6, characterized in that the elastic linkage of the retention arm (8) with the peripheral ring (9) is obtained by the succession of two elastically deformable zones: a first deformation zone (16) enabling the retention arm (8) to displace in horizontal pivoting about a vertical pivoting axis (XX'), and a second deformation zone (17), distinct from the first deformation zone (15), enabling the arm (8) to displace in vertical pivoting about a horizontal pivoting axis (YY').



DEVICE FOR FIXING IN A CONTAINER SUCH AS A METAL CAN A DEVICE  
AUTOMATICALLY EXTRACTING THE STRAW, AND ITS ASSOCIATED  
DEVICE

[0001] The present invention relates to a method of positioning in a container, such as a can, a device for automatically extracting a straw, and its associated device.

[0002] Numerous types of containers are commercially available: plastic bottles, glass bottles, metallic cans, cardboard packagings which can have various shapes allowing for the packaging of any type of liquid food products.

[0003] These various containers have the disadvantage, for the user, of being either unhealthy when one wishes to drink straight from the container, or impractical depending on the shape and size of the neck, or the shape of the container itself.

[0004] In the particular case of metallic cans or cardboard packagings used for diverse and varied beverages, such as beers, sodas, fruit juices, or milk, they are very unhealthy. Indeed, from the locations where they are produced, after the beverage has been packaged, they are transported and unloaded without any specific hygienic measure, and then sold to the consumer by a retailer who stores them without any particular hygienic precaution and handles them manually. During these various manipulations, various microbes, viruses, bacteria or dust can be deposited on the walls of the containers, which are ingested by the consumer when he places his lips on the container.

[0005] Furthermore, in the particular case of metallic cans, and independently of hygiene problems, the consumer can be hindered when drinking the beverage by problems of ill-timed flow, which most often leaves stains on his clothes.

[0006] Therefore, a device for automatically extracting a straw has been developed to equip the cylindrical metallic cans of the type having a container closed by a crimped cover, which includes opening means constituted of a push ring adapted to displace a precut tongue inward of the can.

[0007] Such an extraction device is described, for example, in the published French

Patent No. 2 772 731, and includes a straw-supporting member constituted by an elastically deformable retention arm, one of the ends of which is connected to a peripheral ring, and the other of which includes means for retaining the straw. The peripheral ring is adapted to be sandwiched between the cover and more particularly its crimping groove and the upper peripheral rim of the container, whereas the retention arm is tensioned before being displaceably positioned and placed in support on a fixed abutment affixed to the peripheral ring. Such a method, which consists of deforming the arm before it is positioned beneath the cover requires a complex, expensive, and unreliable assembly line, particularly in view of the imposed high filling rates.

[0008] The present invention therefore proposes to resolve these disadvantages by proposing a device without fixed abutment for the deformed straw retention arm, and its embodiment method.

[0009] Thus, according to the invention, the method of positioning, in a can including a container closed by a cover, a device for automatically extracting a straw, of the type including a straw-supporting member constituted by an elastically deformable retention arm adapted to be tensioned by elastic deformation, said arm including a retention tube for the straw, is characterized in that it consists of tensioning said arm by the direct or indirect effect of the cover during the coupling of said cover to said device.

[0010] According to complementary characteristics, the method includes the following preliminary steps:

- a. fixing the straw to the retention arm to form an intermediate subassembly, namely, the straw-extraction device subassembly;
- b. coupling of the intermediate subassembly to the cover to form a closure subassembly;

and the following complementary steps:

- c. filling up the container with the desired beverage;

- d. positioning the closure subassembly in the container;
- e. crimping the cover on the container.

[0011] According to another characteristic, the method consists of tensioning the retention arm by the action of the cover on a projection affixed to the retention arm, or on the straw retained by the arm.

[0012] The invention also relates to the device for extracting a straw adapted to implement the method, which comprises a straw-supporting member constituted by an elastically deformable retention arm, one of the ends of which is connected to a peripheral ring or annular ring, whereas the free end of the arm includes means for retaining the straw.

[0013] According to a complementary characteristic, the means for retaining the straw are constituted by a retaining tube portion (10).

[0014] According to other characteristics, the device is obtained in a single piece made of injected plastic material, whereas the annular ring includes a succession of deformable lips that are peripherally sandwiched, during the crimping of the can, between the cover and more particularly its crimping groove and the upper peripheral rim of the opening of the container.

[0015] According to a preferred embodiment of the device, the retaining arm includes an actuation arm adapted to be actuated and displaced by the cover during the opening of the can, whereas the elastic connection of the retention arm to the peripheral ring is obtained by the succession of two elastically deformable zones: a first deformation zone enabling the arm to move in horizontal pivoting about a vertical pivoting axis, and a second deformation zone, distinct from the first deformation zone, enabling the arm to move in vertical pivoting about a horizontal pivoting axis.

[0016] Other characteristics and advantages of the invention will become apparent from the description that follows, with reference to the annexed drawings, which are only provided by way of non-limiting examples.

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Figures 1 and 2, respectively, show a perspective view of the opening of a container such as a metallic cylindrical can including the device of the invention.

Figure 1 shows the sealed can.

Figure 2 shows the open can, once the cap has enabled the straw to project out of the opening.

Figures 3, 4, 5, 6 and 7 show a first embodiment of the extraction device.

Figures 8, 9, 10, 11, and 12 show a second embodiment of the extraction device.

Figures 13, 14, 15, 16, 17 and 18 show the phases of the method, using the first embodiment of the extraction device.

Figures 19, 20, 21, 22, 23, and 24 show the phases of the method, using the second embodiment of the extraction device.

Figure 25 is a perspective bottom view of an alternative of the second embodiment of the device.

**[0017]** The invention relates to a method of positioning a straw automatic extraction device, generally designated by the reference numeral (1), adapted to automatically extract, when it is being opened, a straw (2) arranged within a container (3). The extraction device (1) is advantageously described in the particular case of the metallic cylindrical cans whose opening means are constituted in a known fashion by a push ring (4) and a precut tongue (5), also called the cap, which can pivot inward of the container (3) under the effect of the ring to free the orifice (6) of said opening means, as shown in Figures 1 and 2. It is understood that the automatic extraction device according to the invention could be modified to be adapted to other types of containers, or to other types of opening means without leaving the scope of protection of the invention.

**[0018]** The extraction device (1) adapted to be used with the method of the invention comprises a straw-supporting member (7) constituted by an elastically deformable

retention arm (8), one of the ends of which is connected to a peripheral ring or annular ring (9). Furthermore, the free end of the arm (8) includes means (10) for retaining the straw, which are constituted by a retaining tube portion (10) that is advantageously open to provide it with enough elasticity to ensure the pinching of the straw.

[0019] The extraction device is advantageously obtained in a single piece made of injected plastic material, whereas the annular ring (9) includes a succession of deformable lips (15) that are peripherally sandwiched during the crimping of the can between the cover (14), and more particularly its crimping groove and the upper peripheral rim of the opening of the container, as seen in Figures 6a and Figure 11a.

[0020] In a first embodiment of the extraction device (1) shown in Figures 3-7, the means (10) for retaining the straw are extended upward by a projection (11) for deforming the arm that extends upward.

[0021] Said projection (11) is constituted by a cylindrical wall portion whose upper end (12) is adapted to come into abutment on the lower wall (13) of the cover (14) during its coupling to said device, as shown in Figures 6 and 16, and, of course, during the crimping of the cover, thus causing the downward deformation along F of the arm (8), as shown in Figure 6 and Figure 16.

[0022] In a second embodiment of the extraction device (1), the retention arm (8), and more particularly its retaining means (10), does not include a deforming projection. According to this alternative embodiment, the deforming of the arm occurs by the direct effect of the cover on the straw. Furthermore, said arm (8) includes an actuating arm (18) adapted to be actuated and displaced by the cap (5) during the opening of the can. In this alternative embodiment, the elastic linkage of the retention arm (8) with the peripheral ring (9) is obtained by the succession of two elastically deformable zones: a first deformation zone (16) enabling the retention arm (8) to displace in horizontal pivoting about a vertical pivoting axis (XX'), and a second deformation zone (17), distinct from the first deformation zone (15), enabling the arm (8) to displace in vertical pivoting about a horizontal pivoting axis (YY'). It is noted that the second deformation zone (17) is a deformable flat section, but it could have any other shape, in particular that which is shown in Figure 25.

[0023] In the two embodiments of the extraction device (1), it is noted that in the non-stress rest position, as shown in Figures 3, 4, 5, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, and 21, the retention arm (8) extends from the peripheral ring inward, substantially horizontally, at least in a plane substantially parallel to the general plane (H) of said ring (9).

[0024] Conversely, in the prestress active position, as shown in Figures 6, 11, 16, 17, 22, 23, and 24, the retaining arm (8) forms, together with the general plane (H) of the peripheral ring (9), a sharp angle (A) comprised between 20 and 60 degrees and, for example, 40 degrees.

[0025] According to the method of positioning the extraction device (1) according to the invention, the retention arm (8) is elastically biased downward along F, such that, during the opening, this elasticity is restored in order to have the straw (2) extracted out of the opening, as shown in Figures 2, 6, and 11.

[0026] The stressing of the arm is done at the time the cover (14) is coupled to the device (1), as shown in Figures 6, 11, 16, 17, 22, and 23 by the direct or indirect effect of said cover on the retention arm.

[0027] With the first embodiment of the device (1), the lower wall (13) of the cover (14) biases the retention arm (8) into a downward elastic prestress by its direct effect on the end (12) of the projection (11) for deforming the arm.

[0028] With the second embodiment of the device (1), the lower wall (13) of the cover (14) biases the retention arm (8) into a downward elastic prestress by its direct effect on the end (20) of the straw (2) retained by the tubular retaining portion (10).

[0029] It is understood that with the first embodiment of the extraction device (1), during the opening of the can, the cap (5) releases the retention arm (8) of the straw (2) which, having been elastically prestressed, returns to its inactive position to drive with it the end of the straw which then projects out of the opening (6).

[0030] With the second embodiment of the extraction device (1), the end (150) of the actuation arm (15) is arranged in the trajectory of the cap (5). Thus, during the opening

of the can, the cap (5) acts on the actuation arm (15) to pivot the assembly which it forms with the retention arm (8) about the axis (XX'), and thus to place the end of the straw in the zone of the opening (6), the straw projecting immediately through this opening by the release of the prestress.

[0031] The embodiment of the method includes the following preliminary steps:

- a. Fixing the straw to the retention arm by introducing the straw into the retention tube (10) to form an intermediate subassembly (30), namely, the straw (2)-extraction device (1) subassembly,

During this operation, one should ensure that the straw extends upward by an adequate height (L) comprised between 10 and 25 millimeters (see Figures 13, 14, and Figures 19 and 20).

- b. Coupling the intermediate subassembly (30) to the cover to form a closure subassembly (31).

In this step, the subassembly (30) is engaged beneath the cover (14) and clipped to the latter by cooperation of the succession of lips (15) with the peripheral groove (31) of the cover (see Figures 15, 16, and Figures 21 and 22). Of course, the positioning of the device with its straw with the cover is done with a relative predetermined angular orientation. During the clipping of the subassembly (30) to the cover, the lower wall (13) of the latter directly or indirectly forces the retention arm (8) downward so as to place it in the prestress position, as shown in Figures 6, 16, and Figures 11 and 22.

[0032] During the bottling itself, the following complementary successive steps are undertaken:

- c. filling the container (3) with the desired beverage;
- d. positioning the closure subassembly in the container, as shown in

Figures 17, 18, and Figures 23 and 24;

e. crimping the cover (34) on the container (3).

[0033] In the alternative embodiment shown in Figure 25, the second deformation zone (17) is a hollow open section, especially omega-shaped so as to provide said zone with appropriate elasticity.

[0034] The straw (2) used is advantageously a telescopic, flexed straw, i.e., which includes a deformation accordion.

[0035] It is noted that the device can include a guiding ramp (90) for the end of the straw, as seen in Figures 9, 10, and 25.

[0036] Of course, the invention is not limited to the embodiments described and shown by way of examples, but it also includes all of the technical equivalents, as well as their combinations.



CLAIMS

1. Method of positioning, in a can including a container (3) closed by a cover (14), a device (1) for automatically extracting a straw (2), of the type including a straw-supporting member (7) constituted by an elastically deformable retention arm (8) adapted to be tensioned by elastic deformation, said arm including a retention tube (10) for the straw, characterized in that it consists of tensioning said arm (8) by the direct or indirect effect of the cover during the coupling of said cover (14) to said device (1).

2. Method according to claim 1, characterized in that it includes the following preliminary steps:

- a. fixing the straw to the retention arm to form an intermediate subassembly (3), namely, the straw (2)-extraction device (1) subassembly;
- b. coupling of the intermediate subassembly (30) to the cover to form a closure subassembly (31);

3. Method according to claim 2, characterized in that it includes the following complementary steps:

- c. filling the container (3) with the desired beverage;
- d. positioning the closure subassembly in the container;
- e. crimping the cover (34) on the container (3).

4. Method according to any of the preceding claims, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on a projection (11) affixed to the arm.

5. Method according to one of claims 1-3, characterized in that it consists of tensioning the retention arm (8) by the effect of the cover on the straw (2) retained by the arm.

6. Device for extracting a straw adapted to implement the method according to any of the preceding claims, characterized in that it comprises a straw-supporting member (7) constituted by an elastically deformable retention arm (8), one of the ends of which is connected to a peripheral ring or annular ring (9), whereas the free end of the arm (8) includes means (10) for retaining the straw.

7. Device for extracting a straw adapted to implement the method according to the previous claim, characterized in that the means (10) for retaining the straw are constituted by a retaining tube portion (10).

8. Device for extracting a straw adapted to implement the method according to one of claims 6 or 7, characterized in that it is advantageously obtained in a single piece made of injected plastic material, whereas the annular ring (9) includes a succession of deformable lips (15) that are peripherally sandwiched during the crimping of the can between the cover (14), and more particularly its crimping groove (31) and the upper peripheral rim of the opening of the container.

9. Device for extracting a straw adapted to implement the method according to one of claims 6-8, characterized in that the retention arm (8) includes an actuation arm (18) adapted to be actuated and displaced by the cap (5) during the opening of the can.

10. Device for extracting a straw adapted to implement the method according to any of claims 6-9, characterized in that the elastic linkage of the retention arm (8) with the peripheral ring (9) is obtained by the succession of two elastically deformable zones: a first deformation zone (16) enabling the retention arm (8) to displace in horizontal pivoting about a vertical pivoting axis (XX'), and a second deformation zone (17), distinct from the first deformation zone (15), enabling the arm (8) to displace in vertical pivoting about a horizontal pivoting axis (YY').

TITLE

DEVICE FOR FIXING IN A CONTAINER  
SUCH AS A METAL CAN A DEVICE  
AUTOMATICALLY EXTRACTING THE STRAW,  
AND ITS ASSOCIATED DEVICE

Applicant

Dany PRIETO

ABSTRACT OF THE DISCLOSURE

Method of positioning, in a can including a container (3) closed by a cover (14), a device for automatically extracting a straw (2), of the type including a straw-supporting member constituted by an elastically deformable retention arm (8) adapted to be tensioned by elastic deformation, said arm including a retention tube (10) for the straw, characterized in that it consists of tensioning said arm (8) by the direct or indirect effect of the cover during the coupling of said cover (14) to said device.

Figure of the abstract: 11

FIG 1

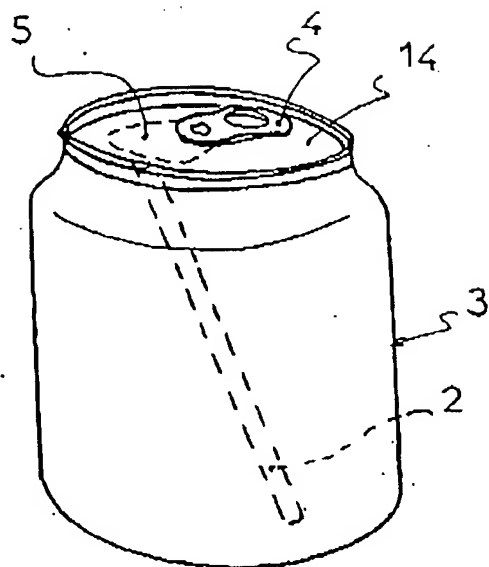
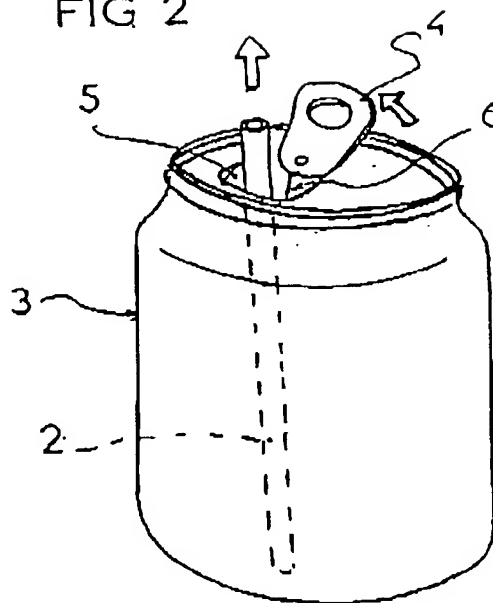


FIG 2



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FIG 3

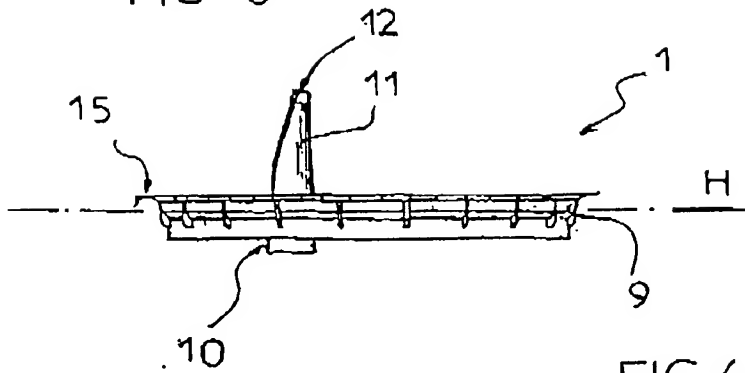


FIG 4

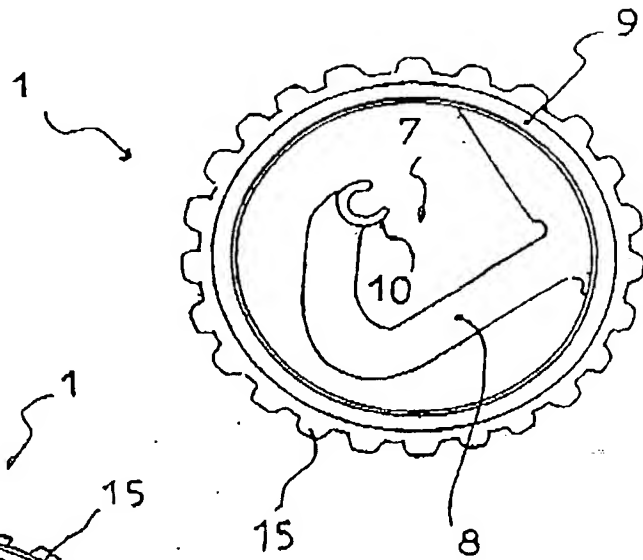
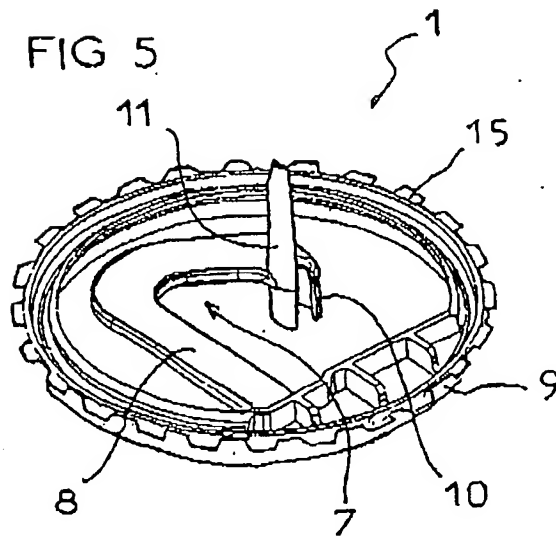


FIG 5



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FIG 6

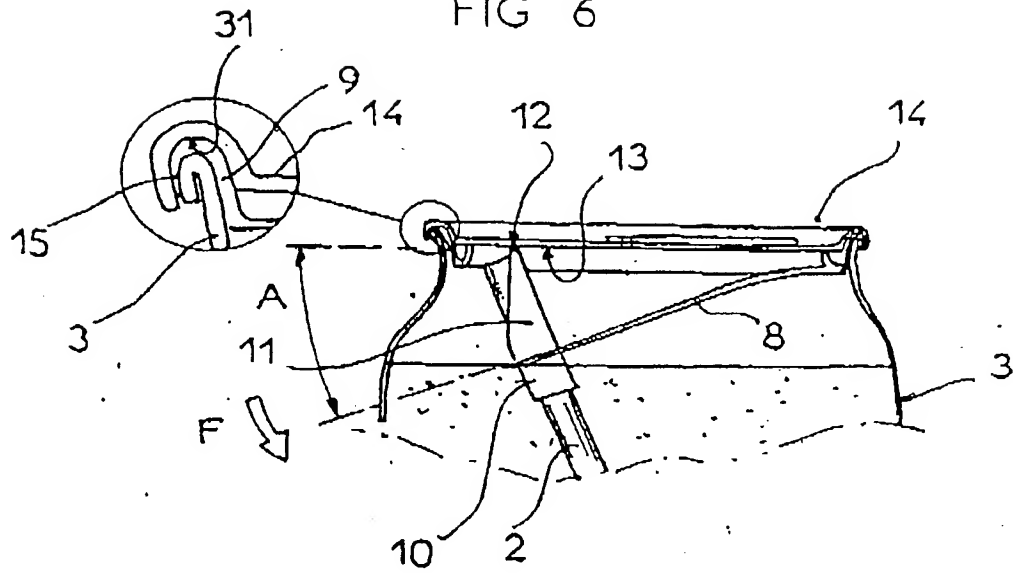
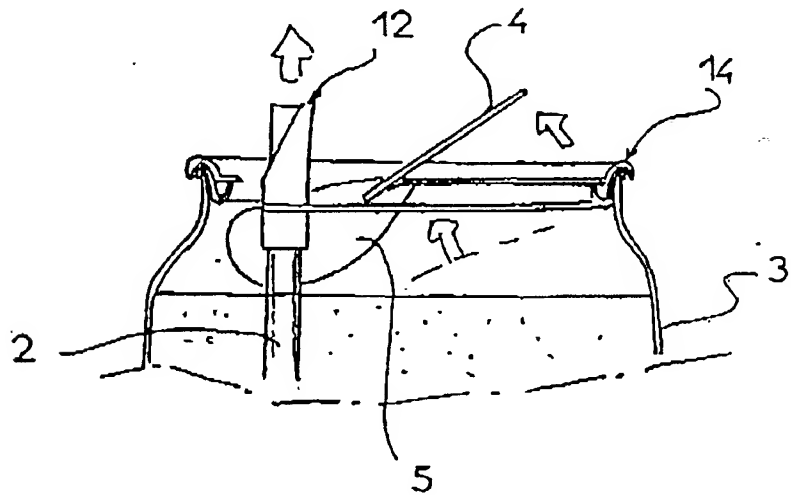


FIG 7



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FIG 8

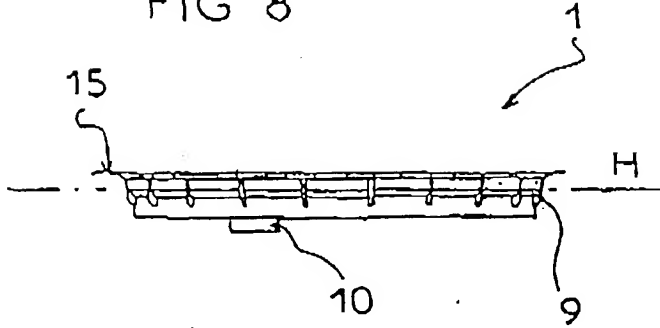


FIG 9

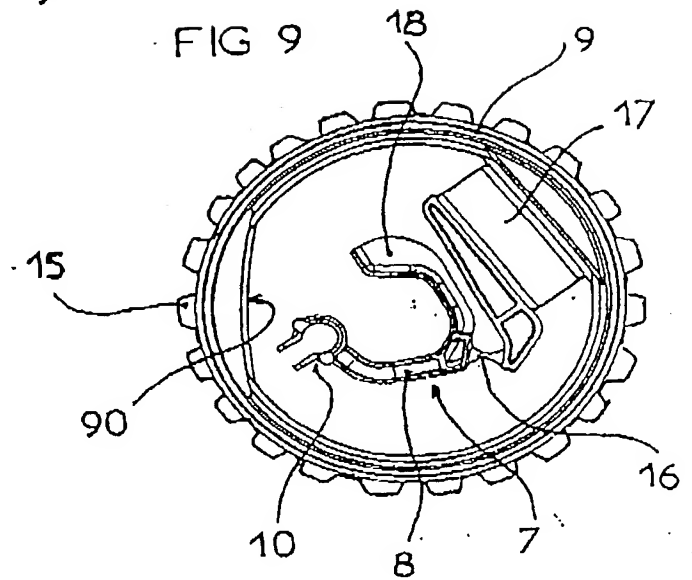
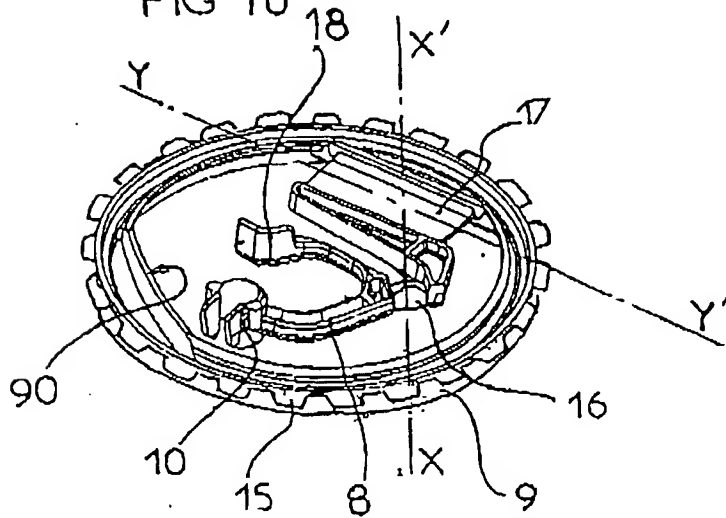


FIG 10



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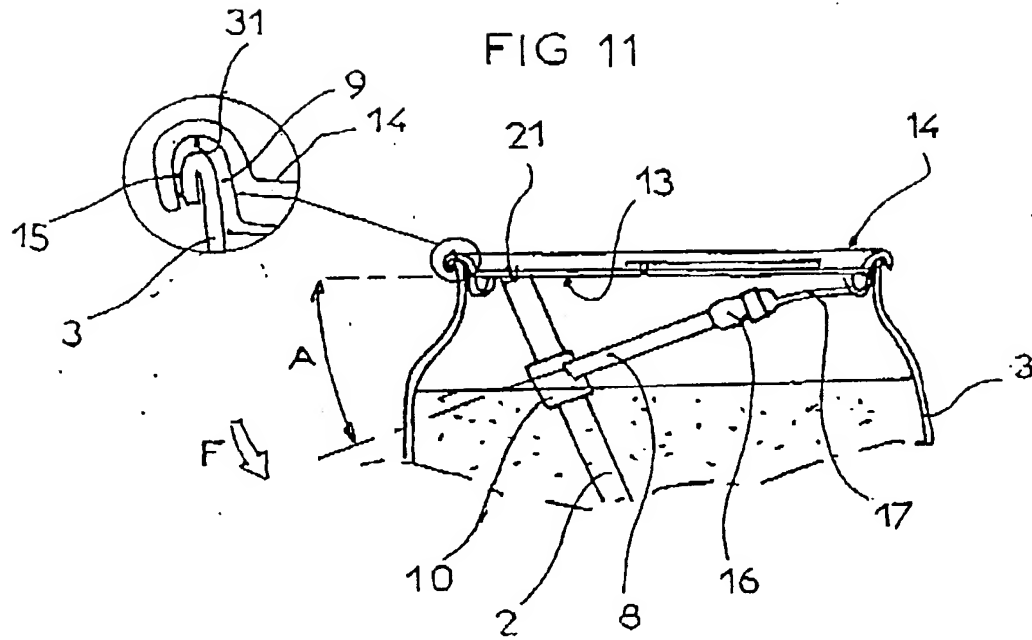
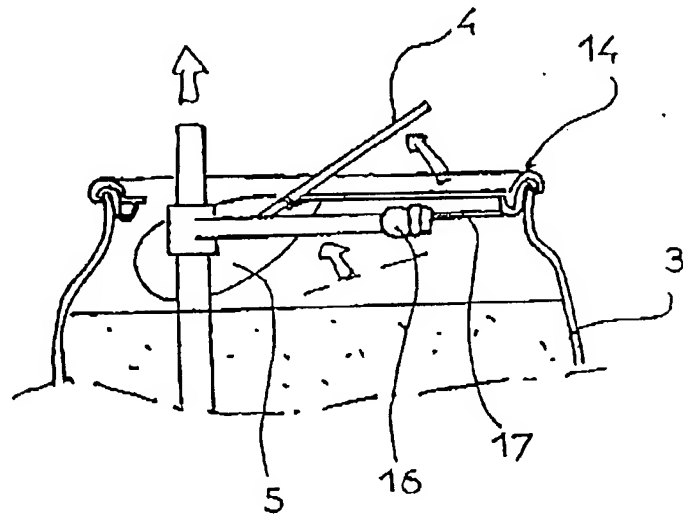


FIG 12





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FIG 13

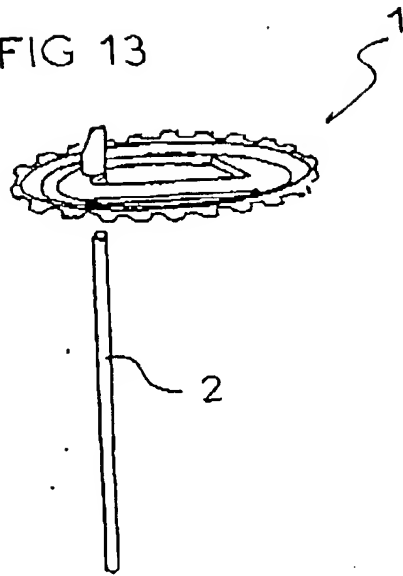


FIG 14

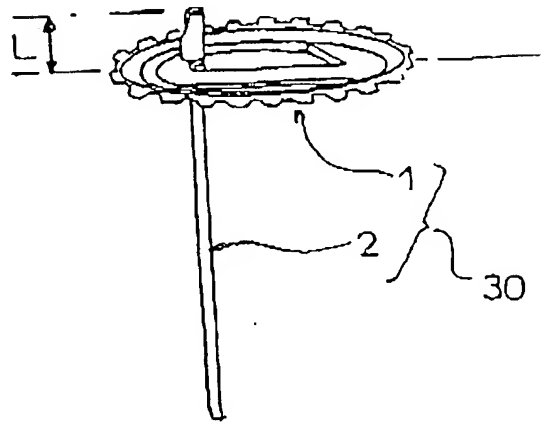


FIG 15

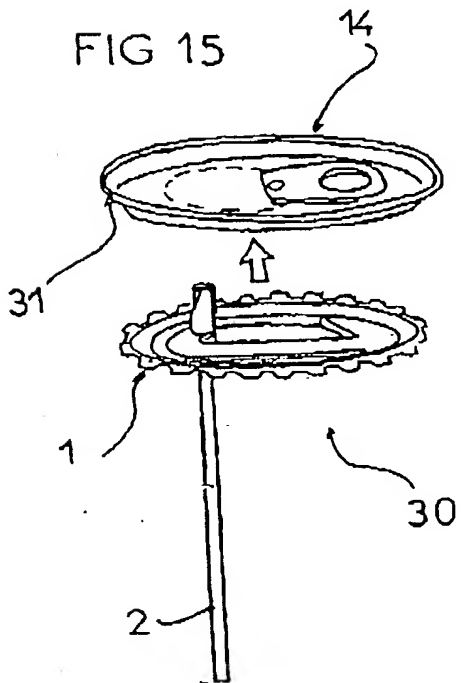


FIG 16

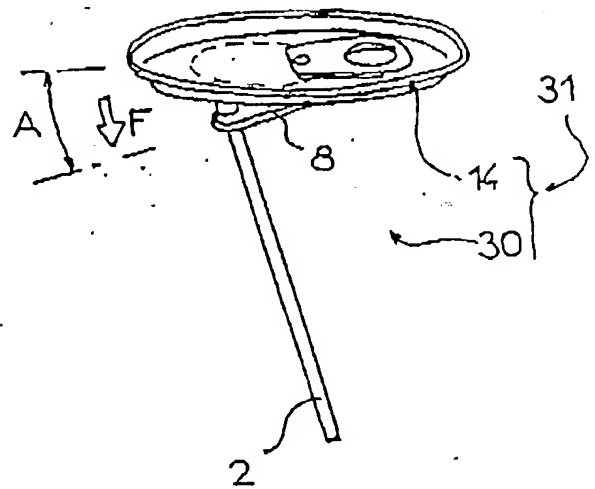


FIG 17

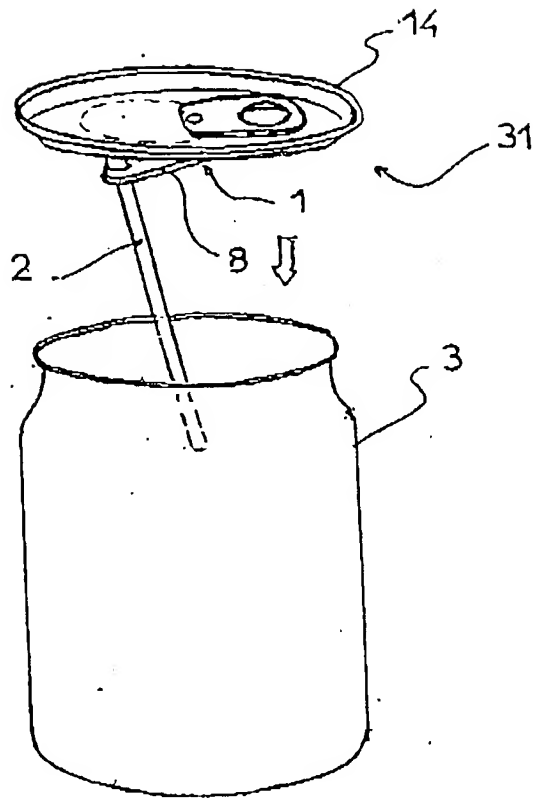


FIG 18

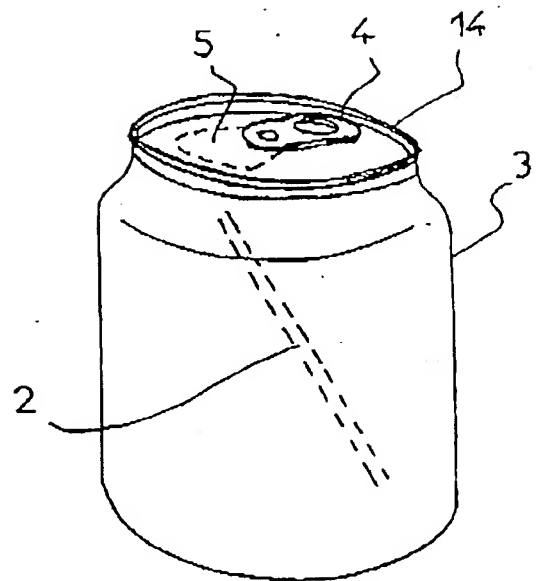


FIG 19

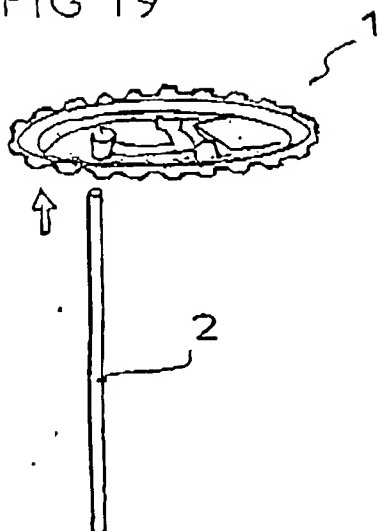


FIG 20

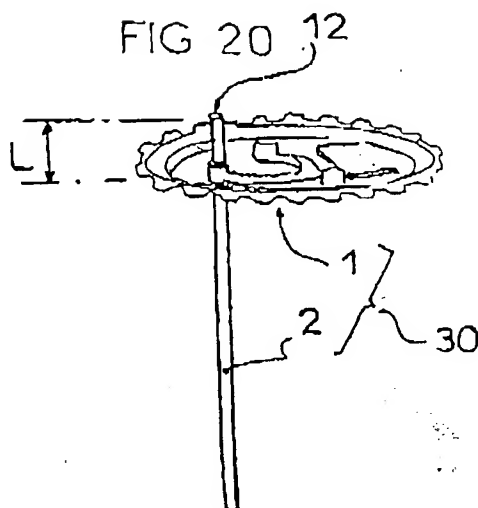


FIG 21

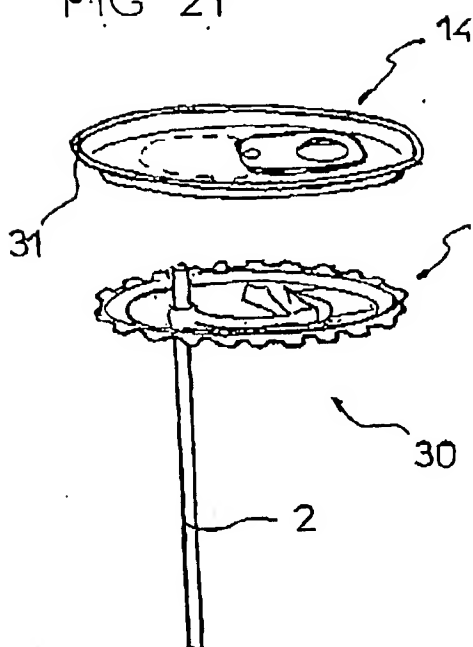
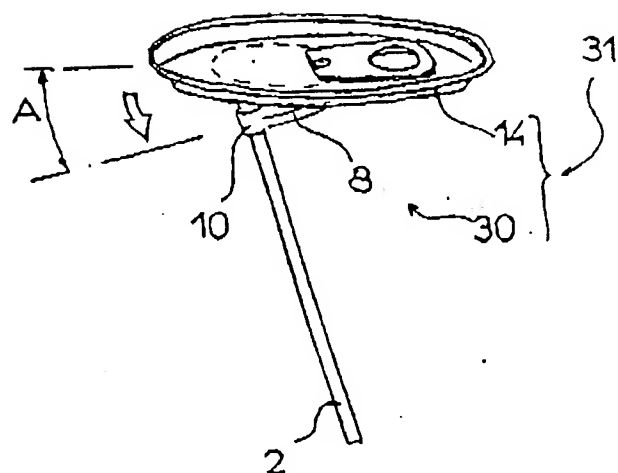


FIG 22



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FIG 23

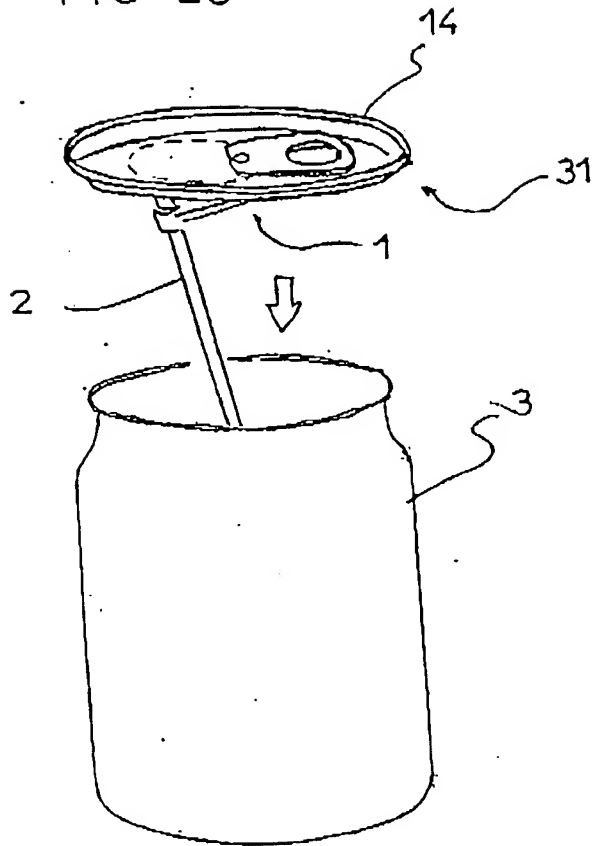
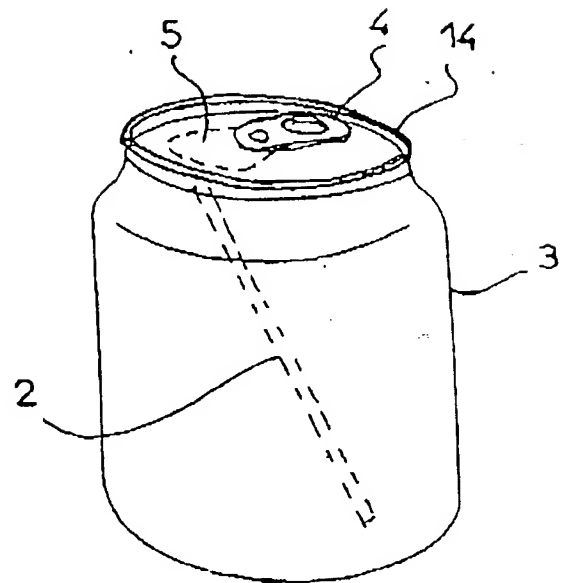
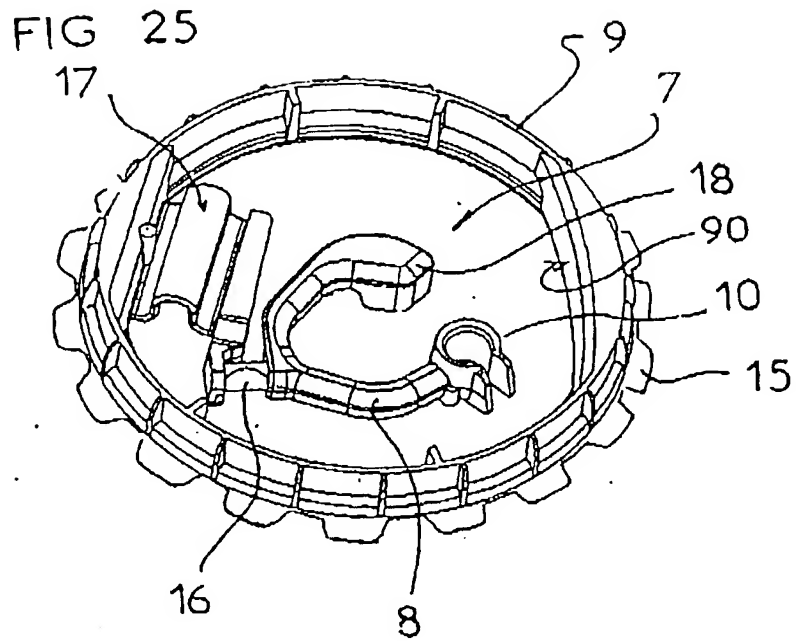


FIG 24





# **Declaration and Power of Attorney For Utility or Design Patent Application**

Déclaration pour Demandes de Brevet d'Utilité et de Modèle avec Pouvoirs

French Language Declaration

En tant qu'inventeur nommé ci-après, Je déclare par le présent acte que :

Mon domicile, mon adresse postale et ma nationalité sont ceux énoncés ci-dessous à côté de mon nom.

Je crois être le premier inventeur original et unique (si un seul nom est mentionné ci-dessous), ou l'un des premiers co-inventeurs originaux (si plusieurs noms sont mentionnés ci-dessous) de l'objet revendiqué, pour lequel une demande de brevet a été déposée concernant l'invention intitulée

ROCEDE DE MISES EN PLACE DANS UN RECIPENT DU  
TYPE CANNETTE METALLIQUE D'UN DISPOSITIF  
D'EXTRACTION AUTOMATIQUE DE PAILLE, ET SON  
DISPOSITIF ASSOCIE

dont la description est fournie ci-jointe à moins que la case suivante n'ait été cochée:

Elle a été déposée 30 août 2000  
sous le numéro de demande des Etats-Unis \_\_\_\_\_  
et modifiée le \_\_\_\_\_ (le cas échéant)  
ou,

le numéro de demande internationale PCT PCT/IB00/01205  
et modifiée le \_\_\_\_\_ (le cas échéant).

Je déclare par le présent acte avoir passé en revue et compris le contenu de la description ci-dessus, revendications comprises, telles qu'elles ont été modifiées par toute modification dont il aura été fait référence ci-dessus.

Je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, § 1.56 du Code fédéral des réglementations.

Je revendique par le présent acte avoir la priorité étrangère, en vertu du Titre 35, § 119(a)-(d) ou § 365(b) du Code des Etats-Unis, sur toute demande étrangère de brevet ou certificat d'inventeur ou, en vertu du Titre 35, § 365(a) du même Code, sur toute demande internationale PCT désignant au moins un pays autre que les Etats-Unis et figurant ci-dessous. J'ai aussi indiqué ci-dessous, en cochant la case "Non", toute demande étrangère de brevet, tout certificat d'inventeur ou toute demande internationale PCT ayant une date de dépôt précédant celle de la demande à propos de laquelle une priorité est revendiquée.

For foreign applications  
Demandes antérieures étrangères

<u>9/11/90</u>	<u>France</u>	<u>31/August/1999</u>
Number)	(Country)	(Day/Month/Year Filed)
Numéro)	(Pays)	(Jour/Mois/Année de dépôt)
<u>                    </u>	<u>                    </u>	<u>                    </u>
Number)	(Country)	(Day/Month/Year Filed)
Numéro)	(Pays)	(Jour/Mois/Année de dépôt)

Les autres demandes étrangères sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

THE DEVICE FIXING IN A CONTAINER SUCH AS A  
METAL CAN A DEVICE AUTOMATICALLY EXTRACTING  
THE STRAW AND ITS ASSOCIATED DEVICE

the specification of which is attached hereto unless the following box is checked:

☒ was filed on August 30, 2000 as  
United States Application Number \_\_\_\_\_  
and was amended on \_\_\_\_\_ (if applicable)  
or,

PCT International Application Number PCT/IB00/01205  
and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority under Title 35, United States Code § 119 (a-d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States, listed below. I have also identified below, by checking the "No" box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed:

Priority claimed  
Priorité revendiquée

<input checked="" type="checkbox"/>	<input type="checkbox"/>
Yes	No
Oui	Non
<input type="checkbox"/>	<input type="checkbox"/>
Yes	No
Oui	Non

☐ Additional foreign application numbers are listed on a supplemental priority sheet attached hereto.

# French Language Utility or Design Patent Application Declaration

revendique par le présent acte tout bénéfice, en vertu du Titre 35 19(e) du Code des Etats-Unis, de toute demande de brevet provisoire effectuée aux Etats-Unis et figurant ci-dessous.

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

Application No.)  
(No. de la demande)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

Application No.)  
(No. de la demande)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

Application No.)  
(No. de la demande)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

D'autres demandes provisoires sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

☐ Additional provisional application numbers are listed on a supplemental priority sheet attached hereto.

revendique par le présent acte tout bénéfice, en vertu du Titre 35, §120 du Code des Etats-Unis, de toute demande de brevet effectuée aux Etats-Unis, ou en vertu du Titre 35, §365 (c) du même Code, de toute demande internationale PCT désignant les Etats-Unis et figurant ci-dessous et, dans la mesure où l'objet de chacune des revendications de cette demande de brevet n'est pas divulgué dans la demande antérieure américaine ou internationale PCT, en vertu des dispositions du premier paragraphe du Titre 35, §112 du Code des Etats-Unis, je reconnais devoir divulguer toute information pertinente à la brevetabilité, comme défini dans le Titre 37, §1.56 du Code fédéral des réglementations, dont j'ai pu disposer entre la date de dépôt de la demande antérieure et la date de dépôt de la demande nationale ou internationale PCT de la présente demande:

I hereby claim the benefit under Title 35, United States Code §120 of any United States application(s), or §365(c) of any PCT international application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

(Application No.)  
(No. de la demande)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

(Status)  
(Etat)  
(patented, pending, abandoned)  
(brevetée, pendante, abandonnée)

(Application No.)  
(No. de la demande)

(Day/Month/Year Filed)  
(Jour/Mois/Année de dépôt)

(Status)  
(Etat)  
(patented, pending, abandoned)  
(brevetée, pendante, abandonnée)

D'autres demandes américaines ou internationales sont énumérées sur la feuille de priorité supplémentaire ci-jointe.

☐ Additional U.S. or international application numbers are listed on a supplemental priority sheet attached hereto.

Je déclare par le présent acte que toute déclaration ci-incluse est, à ma connaissance, véridique et que toute déclaration formulée à partir de renseignements ou de suppositions est tenue pour véridique; et de plus, que toutes ces déclarations ont été formulées en sachant que toute fausse déclaration volontaire ou son équivalent est passible d'une amende ou d'une incarcération, ou des deux, en vertu de la Section 1001 du Titre 18 du Code des Etats-Unis, et que de telles déclarations volontairement fausses risquent de compromettre la validité de la demande de brevet ou d'un brevet délivré à partir de celle-ci.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Je soussigné(s) autorise(nt) par la présente le(s) avocat(s) américain(s) et le(s) mandataire(s) ci-après désigné(s) à accepter et à suivre les instructions, soit de son(leurs) conseil(s) en brevet étranger(s), soit du représentant officiel de la société, concernant toute démarche nécessaire à effectuer auprès de l'Office américain des Brevets et des Marques concernant cette demande, sans communication directe entre le(s) avocat(s) américain(s) ou le(s) mandataire(s) nommé(s) par la présente et moi(les) informé(s) par le(s) soussigné(s). Dans l'hypothèse d'un changement dans les donneurs d'instructions, le(s) avocat(s) américain(s) et le(s) mandataire(s) nommé(s) par la présente sera(ont) informé(s) par le(s) soussigné(s).

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from either his foreign patent agent or corporate representative, if any, as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the persons from whom instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

# French Language Utility or Design Patent Application Declaration

**POUVOIR:** En tant qu'inventeur, je désigne l'(les) avocat(s) et/ou l'(les) agent(s) associés au Numéro Client indiqué ci-dessous pour poursuivre la procédure de cette demande et traiter toute affaire la concernant auprès de l'Office des Brevets et des Marques, et autorise à ce que toute correspondance soit associée à ce Numéro Client.

**POWER OF ATTORNEY:** As a named inventor, I hereby appoint the attorney(s) and/or agent(s) associated with the Customer Number provided below to prosecute this application and transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number:

**NUMERO CLIENT 7055**

**CUSTOMER NUMBER 7055**

Les avocats actuellement désignés sont énumérés ci-après:

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Bruce H. Bernstein Reg. No. 29,027  
James L. Rowland Reg. No. 32,674  
Arnold Turk Reg. No. 33,094

The appointed attorneys presently include:

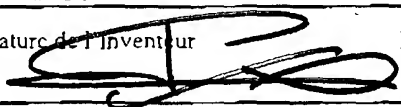
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**Greenblum & Bernstein, P.L.C.**  
(703) 716-1191

Nom complet du seul ou premier inventeur Dany PRIETO	100	Full name of sole or first inventor Dany PRIETO
Signature de l'inventeur 	Date 29 AOUT 2002	Inventor's signature Date
Domicile Porrentruy, Switzerland	Residence Porrentruy, Switzerland	CHX
Nationalité Française	Citizenship French	
Adresse Postale 7, rue des Tanneurs, CH-2900 Porrentruy, Switzerland	Post Office Address 7, rue des Tanneurs, CH-2900 Porrentruy, Switzerland	
Nom complet du second co-inventeur, le cas échéant	Full name of second joint inventor, if any	
Signature du second inventeur	Date	Second Inventor's Signature Date
Domicile	Residence	
Nationalité	Citizenship	
Adresse Postale	Post Office Address	
(Fournir les mêmes renseignements et la signature de tout co-inventeur supplémentaire).	(Supply similar information and signature for third and subsequent joint inventors.)	